

Application No. 10 /054,451
Amendment dated July 6, 2004
Reply to Final Office Action of May 5, 2004
Amendments To the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

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Claim 1 (currently amended): A digital equipment system comprising:

- a. a host for sending commands to read or write files having sectors of information, each sector having and being modifiable on a bit-by-bit, byte-by-byte or word-by-word basis, said host being operative to receive responses to said commands;

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- b. a controller device responsive to said commands, and including, one-time-programmable nonvolatile memory for storing information organized into sectors, based on commands received from the host; and

a comparator coupled to receive sectors to be written and re-written, wherein upon receiving commands from the host to re-write a sector, the [controller device] comparator comparing a sector to be re-written to a corresponding stored sector allowing the controller device to [for re-writing] re-write said sector to be re-written only on a bit-by-bit, byte-by-byte or word-for-word basis and only as to those locations in the sector that have been modified.

10 1 Claim 2 (original): A digital equipment system as recited in claim 1 wherein said one-time-programmable nonvolatile memory includes a system area and a data area, said system area for storing information pertaining to the organization of the information stored or to be stored in the data area.

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1 Claim 3 (currently amended): A digital equipment system as recited in claim 2 wherein said [system] system area includes storage areas for including Original Engineering Manufacturer

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3 (OEM) identification/Bidirectional Input/Output System (BIOS), a File Allocation Table (FAT)

4 1, a FAT 2 and root disk directory information.

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1 Claim 4 (original): A digital equipment system as recited in claim 1 wherein said controller
2 device further includes a first buffer for storing a host-provided sector and a second buffer for
3 storing sectors stored or to be stored in the one-time-programmable nonvolatile memory.

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1 Claim 5 (original): A digital equipment system as recited in claim 4 further including a
2 comparator coupled between said first and second buffer for comparing a sector to be modified
3 or accessed by the host with those sectors to which information has been previously written.

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1 Claim 6 (original): A digital equipment system as recited in claim 1 wherein during power-up,
2 said controller device for identifying the end-of-file, wherein the location following the location
3 in which the end-of-file resides is identified as the location for the start-of-file of a new file to be
4 stored.

1 Claim 7 (original): A digital equipment system as recited in claim 6 wherein said end-of-file is
2 identified by the use of a flag.

1 Claim 8 (original): A digital equipment system as recited in claim 1 wherein said files are
2 digital photographs.

1 Claim 9 (original): A digital equipment system as recited in claim 1 wherein said files are
2 archives.

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1 Claim 10 (original): A digital equipment system as recited in claim 1 wherein said controller
2 device maintains a correlation between logical addresses and physical addresses for translating
3 host-provided addresses to addresses recognized by the one-time-programmable nonvolatile
4 memory.

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1 Claim 11 (original): A digital equipment system as recited in claim 10 wherein said controller
2 for maintaining track of defective locations within the one-time-programmable nonvolatile
3 memory.

1 Claim 12 (currently amended): A digital equipment system comprising:

2 a. a host for sending commands to read or write files having sectors of information, said host
3 being operative to receive responses to said commands;
4 b. a controller device responsive to said commands, and including,
5 one-time-programmable nonvolatile memory having a spare area, said one-time-
6 programmable nonvolatile memory for storing information organized into sectors, based on
7 commands received from the host, and upon receiving commands from the host to re-write a
8 sector, said controller for mapping sectors being re-written to the spare area.

1 Claim 13 (original): A digital equipment system as recited in claim 12 wherein said one-time-
2 programmable nonvolatile memory further includes a system area and a data area.

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1 Claim 14 (original): A digital equipment system as recited in claim 13 wherein said controller
2 device for identifying a start-of-file location and an end-of-file location and a defective sector
3 location within the one-time-programmable nonvolatile memory, the latter of which is skipped
4 over when writing sectors.

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1 Claim 15 (original): A digital equipment system as recited in claim 14 wherein the information
2 that was to be written to the defective sector is instead written to the spare area location.

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1 Claim 16 (original): A digital equipment system as recited in claim 12 wherein said controller
2 for determining if there is no start-of-file identifier at a location following a corrupted sector or
3 there is no end-of-file in the rest of the one-time-programmable nonvolatile memory, such
4 location identified as a corrupted sector due to power failure and designated accordingly so as to
5 prevent future storage of information therein.

1 Claim 17 (original): A digital equipment system comprising:

2 a. a host for sending commands to read or write files, said host being operative to receive
3 responses to said commands;
4 b. a controller device responsive to said commands, and including,
5 one-time-programmable nonvolatile memory for storing files and identifying the
6 start-of-file and end-of-file for a file being stored within the one-time-programmable
7 memory, wherein during power-up, said controller device for identifying the end-of-file of a
8 stored file, the location following the location in which the end-of-file resides being
9 identified as the location for the start-of-file of a new file to be stored.

1 Claim 18 (currently amended): A digital equipment system comprising:

2 a. a host for sending commands to read or write files having sectors of information, said
3 host being operative to receive responses to said commands;
4 b. a controller device responsive to said commands, and including,
5 one-time-programmable nonvolatile memory having spare locations for storing
6 sector information, said one-time-programmable nonvolatile memory for storing information
7 organized into sectors based on commands received from the host and upon receiving a

8 command from the host to re-write or update a sector, the controller device for writing only
9 the updated sector to a spare location.

1 Claim 19 (original): A digital equipment system comprising:
2 a. a host for sending commands to read or write files having sectors of information, each
3 sector having associated therewith an error correction code (ECC) indicative of the
4 corruption of sector information, said host being operative to receive responses to said
5 commands;
6 b. a controller device responsive to said commands, and including,
7 one-time-programmable nonvolatile memory for storing information organized into
8 sectors, wherein said controller checks the ECC of a particular sector for a determination of
9 whether or not the particular sector is corrupted and if so, reads the information stored within
10 the next sector and determines if the next sector information is in a non-programmable state
11 and if so or the ECC associated with the next sector indicates that the next sector information
12 is corrupt, the controller device identifies an end-of-file.

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